

## Power-up your career with a Bachelor of Engineering (Sustainable Energy Systems)



**Demand for 'green power' to battle climate change will open a range of new career choices in engineering.**

To meet this demand, Griffith has launched Sustainable Energy Systems engineering, a new specialisation combining electronics engineering with specialist courses on renewable energy generation, power storage and distribution, and efficient energy consumption.

Graduates of this degree will be able to take advantage of the significant jobs growth that is likely to come from traditional and green energy generators, power distribution companies and other organisations working in distributed energy systems and efficient electronic device design.



### Powering ahead

Bachelor of Engineering student Natasha Smith studied sustainable energy as part of her degree and now aims for a career developing and promoting sustainable energy solutions, particularly in developing countries.

She said the course had opened her eyes to problems with the current system.

"I knew conserving power was a good thing, but I was surprised to learn how inefficient coal fired power stations were and the losses that occur throughout the system," she said.

"I became interested in the industry because our current energy supply methods are not sustainable long term. Until recently you never really heard about green alternatives, but there are numerous options that could be investigated including solar, wind, geothermal, hydro and tidal energy.

"Learning about this emphasised the cascading effect that saving energy, even on an individual level, would have. I learned how to size wind turbines and solar panels to meet home energy requirements and investigated other sources to satisfy our energy supply needs."

## **Bachelor of Engineering (Sustainable Energy Systems) or Bachelor of Engineering (Advanced with Honours) (Sustainable Energy Systems)**

### **Nathan campus**

**Duration:** 4 years full-time

**QTAC code:** 228672

**Prerequisites:** English (4 SA), Maths B (4 SA)

**Recommended:** At least one of Physics, Chemistry or Maths C

Mid-year intake offered

### **Why choose this degree?**

This new degree will give you the skills normally associated with electronics engineering, plus special skills in renewable and distributed power generation (eg. solar, wind), efficient storage (eg. grid-backfeeding batteries) and efficient usage of energy systems such as lighting, electric vehicles, domestic and industrial equipment, and energy auditing and environmental awareness.

In your final year, you will be given the opportunity to be placed in a company of your interest for a full semester industry placement.

#### **Year 1**

- Engineering Practice
- Electric Circuits
- Engineering Physics
- Mathematics IA
- Writing Skills 1, 2, 3
- Introduction to Electronics
- Digital Systems
- Computing and Programming with MATLAB
- Mathematics

#### **Year 2**

- Advanced Engineering Mathematics
- Semiconductor Devices and Circuits
- Fluid Mechanics and Hydraulics
- Chemistry A
- Microprocessor Techniques
- Thermodynamics
- Electromagnetic Fields and Propagating Systems
- Elective

#### **Year 3**

- Practical Electronics
- C and Unix Programming
- Efficient Energy Systems
- Project Management Principles
- Renewable Energy Systems
- Power Distribution and Storage
- Electives

#### **Year 4**

- Industrial Affiliates Program
- Industry Experience
- Energy Resource Management
- Electives

You will be required to choose four electives in either:

#### **Electives**

- Energy and Environment Security
- Control Systems
- Design of Real-Time Systems
- Advanced Communications Systems
- Optical Communications Systems
- Integrated Electronics
- Communication Systems and Circuits
- Linear Electromagnetics

### **Career opportunities**

You'll graduate with extremely strong career prospects as demand in the traditional and alternate power industries continues to grow. Graduates will be eligible for research and industry employment as the public and private sectors diversify into green power and develop sustainable energy practices for their businesses. You will also have sufficient electronic engineering skills to work in many other power and non-power related electronics areas.

For more information contact the **Griffith School of Engineering**

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